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Editorial

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"Obesity paradox" and Cardiovascular Disease: Myth or a Better Clinical Outcome?

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Introduction

Obesity is linked to traditional cardiovascular risk factors like, metabolic syndrome, hypertension, hyperlipidemia and diabetes, dyslipidemia, diabetes mellitus, sleep apnoea syndrome, reduced insulin sensitivity, enhanced free fatty acid turnover, increased basal sympathetic tone, a hypercoagulable state, systemic inflammation and suspected to incur increased morbidity and mortality [1-6].

Body Mass Index (BMI) is a patient's weight in kilograms divided by the square of height in meters. BMI to define underweight, normal weight, overweight, and various classes of obesity (Table 1) [7-10].

Classification	BMI	Risk of Developing Health Problems
Underweight	18.5	Increased
Ideal BMI	18.5–24.9	Least
Overweight	25-30	Increased
Obese I	30.0–34.9	High
Obese II	35.0–39.9	Very high
Obese III	>40	Extremely high
Super Obese	>50	Super high

Table 1: BMI classification.

Hansel and colleagues report a study to explore the relation between BMI and cardiovascular (CV) disease, and the influence of optimal medical therapy (OMT) on this relationship. Patients from the REACH cohort with or at high risk of atherosclerosis, were followed up to 4 years (n=54 285). Patients were categorized according to baseline BMI (underweight to Grade III obesity). OMT was defined as the use of the four cardioprotective medication classes (statins, ACE inhibitors/angiotensin II receptor blockers, β-blockers, and antiplatelet agents). The main outcomes were all-cause mortality, CV mortality, and CV events. In primary and secondary prevention, a reverse J-shaped curve best described the relationship between BMI categories and the incidence of the various outcomes. In secondary prevention, the highest adjusted risks were observed for underweight patients (1.97, P<0.01, and 1.29, P=0.03, for CV mortality and CV events) and the lowest HRs were observed, respectively, in Grade II and Grade III obese patients (0.73, P<0.01 and 0.80, P<0.01). The patients on OMT increased with BMI from 10.1 to 36% (P<0.001) [11].

Obesity paradox was observed in both primary and secondary CV prevention patients. A large cohort study should be conducted to definitively determine the clinical significance of obesity paradox, its correlation with the primary and secondary prevention. Potential treatments such as lifestyle modification, ectopic fat reduction, and medications should be investigated.

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